

We claim:

1. An oven door locking mechanism which locks and unlocks the oven door at substantially different temperatures.
2. The oven door locking mechanism of claim 1 which locks the oven door at a temperature substantially higher than that at which it unlocks the oven door.
3. The oven door locking mechanism of claim 1 comprising a thermally responsive element capable of actuating locked and unlocked states of the oven door at different temperatures.
4. The oven door locking mechanism of claim 1 comprising a clutch mechanism.
5. The oven door locking mechanism of claim 4 wherein said clutch mechanism comprises:
 - a thermally responsive element;
 - a clutch; and
 - a lock member.

6. The oven door locking mechanism of claim 5 wherein said clutch has a first side and a second side, wherein said first side is engaged with said second side.

7. The oven door locking mechanism of claim 5 further comprising:

a first spring in contact with said lock member, wherein said lock member defines a first side of said clutch as a keyed aperture, said keyed aperture is engaged with said thermally responsive element.

8. The oven door locking mechanism of claim 7, wherein the keyed aperture comprises an annular recess.

9. The oven door locking mechanism of claim 7 wherein said lock member has a first end and a second end, said first end defines said keyed aperture.

10. The oven door locking mechanism of claim 7 wherein said thermally responsive element defines a second side of said clutch as a slot, said slot in engagement with said keyed aperture.

11. The oven door locking mechanism of claim 7 wherein said first spring encompasses said lock member.

12. The oven door locking mechanism of claim 10 wherein said slot is elongated.

13. The oven door locking mechanism of claim 7 further comprising:

a latch mechanism defining a lock hole adapted to receive said lock member; and

a mounting bracket wherein said first spring is affixed to said mounting bracket.

14. The oven door locking mechanism of claim 10 wherein said thermally responsive element is a bimetallic leaf secured at a first end and defining said slot at a second end.

15. The oven door locking mechanism of claim 13 wherein said lock hole comprises a receiver member.

16. The oven door locking mechanism of claim 15 wherein
said receiver member is a bushing.

17. An oven door locking mechanism comprising:
a clutch;
a thermally responsive element defining a second side
of said clutch as a slot;
5 a lock member defining a first side of said clutch as a
recess, said recess is engaged with said slot;
a latch mechanism defining a lock hole adapted to
receive said lock member at end opposite said recess, said lock hole comprises
a bushing; and
10 a mounting bracket comprising a first spring, said first
spring encompasses said lock member.

18. An oven door locking mechanism comprising:

a clutch;

a first bimetallic leaf adapted to deflect in response to heating and cooling and defining one side of said clutch as a slot;

5 a lock member defining a second side of said clutch as a recess, wherein said recess is engaged with said slot;

a latch mechanism defining a lock hole adapted to receive said lock member at end opposite said recess;

10 a second bimetallic leaf adapted to deflect into engagement with a second notch defined in said latch mechanism to selectively prevent actuation of said latch mechanism; and

a mounting bracket comprising a first spring, said first spring encompasses said lock member.